

REMARKS**Double Patenting**

Claims 1-36 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting over U.S. Patent Serial No. 09/929,382 (the ‘382 patent). Claims 1-36 have been cancelled without prejudice. Accordingly, the provisional rejection of these claims is now moot.

Applicants have added new claims 37-56. The new claims are supported in the specification in, inter alia, paragraphs [0029]-[0058] of the original specification. No new matter has been entered.

Claim 37 recites, in part:

driving a plurality of gain elements according to groups of multiple gain elements, such that a respective drive signal is provided to each group to cause each gain element of the respective group to operate at substantially the same power within a region of optimal electrical efficiency;

providing optical power transmitted by said partially reflective component to a Raman amplifier to generate substantially flat Raman gain across at least one telecommunications band.

Claim 47 recites, in part:

a plurality of groups of multiple gain elements, wherein a respective drive signal is provided to each group to cause each gain element of the respective group to operate at substantially the same power within a region of optimal electrical efficiency;

a Raman amplifier receiving optical power transmitted by said partially reflective component that generates substantially flat Raman gain across at least one telecommunication band.

The standard for obviousness-type double patenting is whether any claim in the application is merely an obvious variation of an invention claimed in another patent. *See* M.P.E.P. § 804(II)(B)(1).

The claims of the ‘382 patent do not teach or suggest each and every limitation of claims 37 and 47. Specifically, there is no teaching or suggestion by the claims of the ‘382 patent of driving the groups of multiple gain elements in the manner recited by these claims. Therefore, claims 37 and 47 are not obvious variations of the claims of the ‘382 patent.

Claims 37 and 47 are patentably distinct from the claims of the ‘382 patent. Claims 38-46 and 48-56 respectively depend from base claims 37 and 47 and, hence, inherit all limitations of their base claim. Therefore, claims 38-46 and 48-56 are also patentably distinct over the claims of the ‘382 patent.

Rejections under 35 U.S.C. § 103(a)

Claims 1-2, 4-6, 12-22, 26, and 29-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,192,062 to Sanchez-Rubio (hereinafter Sanchez-Rubio)

Claims 3, 7-11, 23-25, 27-28, and 32-36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sanchez-Rubio in view of the article “Pump Interactions in a 100-nm Bandwidth Raman Amplifier,” IEEE Photonics Technology Letters, Vol. 11 No. 5, pp. 530-532, by Kidorf et al. (hereinafter Kidorf).

As previously noted, claims 1-36 have been cancelled without prejudice. Accordingly, the rejection of claims 1-36 is not addressed herein.

Claim 37 recites, in part:

driving a plurality of gain elements according to groups of multiple gain elements, such that a respective drive signal is provided to each group to cause each gain element of the respective group to operate at substantially the same power within a region of optimal electrical efficiency;

providing optical power transmitted by said partially reflective component to a Raman amplifier to generate substantially flat Raman gain across at least one telecommunications band.

Claim 47 recites, in part:

a plurality of groups of multiple gain elements, wherein a respective drive signal is provided to each group to cause each gain element of the respective group to operate at substantially the same power within a region of optimal electrical efficiency;

a Raman amplifier receiving optical power transmitted by said partially reflective component that generates substantially flat Raman gain across at least one telecommunication band.

Sanchez-Rubio merely discloses an incoherently beam combined (IBC) laser with a spatial filter used to improve the quality and to increase the brightness of the overlapping beam. *See* Col. 9, lines 10-17. Sanchez-Rubio does not address how that gain elements of

the disclosed IBC laser are driven. Because Sanchez-Rubio is silent with regard to driving the gain elements, Sanchez-Rubio cannot provide the necessary teaching or suggestion. Kidorf merely discloses using a plurality of discrete and functionally unrelated laser sources to generate Raman gain. There is no teaching or suggestion in Kirdorf to drive gain elements in the recited manner where the gain elements receive respective spectral feedback using a diffractive element. Moreover, there is no teaching or suggestion in the Sanchez-Rubio or Kirdorf (either alone or in combination) that driving gain elements to operate at substantially the same power level within a region of optimal electrical efficiency could generate relatively flat Raman gain.

Accordingly, Applicants submit that claims 37 and 47 are patentable over the cited art. Claims 38-46 and 48-56 respectively depend from base claims 37 and 47 and, hence, inherit all limitations of claims 37 and 47. Therefore, Applicants submit that claims 38-46 and 48-56 are also allowable.

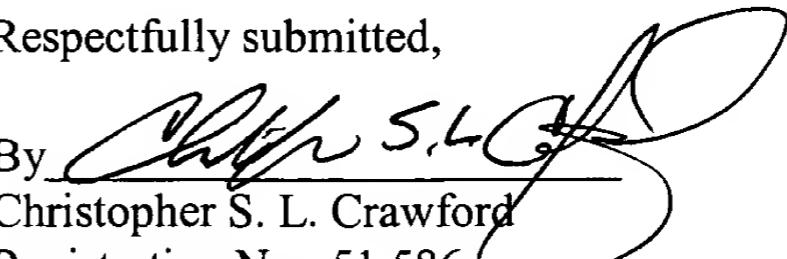
Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 06-2380, under Order No. 60988/P001US/10103485 from which the undersigned is authorized to draw.

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Respectfully submitted,

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